

**DETAILED ACTION**

1. This Office Action is in response to the amendment filed 23 February 2010.

Claims 1-32 are pending, of which claim 16-32 are withdrawn from consideration.

***Response to Arguments***

2. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "at least one of the key images having numeric keys 1 and 2 and a non-numeric key all positioned at the top of the key image" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

\*The Examiner notes that the drawings filed may actually support the claimed subject matter but since they are unintelligible, it is not clear whether or not the claimed subject matter is shown or not.

### ***Claim Objections***

4. Claims 1 and 13 are objected to because of the following informalities:

The claims are newly amended each recite the limitation "at least one of the key images having numeric keys 1 and 2 and a non-numeric key all positioned at the top of the key image." In the response the Applicant states that Figures 19a to 23b support this limitation, however, the drawings are unclear, and the part of the specification describing these Figures only state of having the numeric keys 1 and 2 are the top but are silent as to whether a non-numeric key is at the top or not. Thus, since the drawings are not clear, the Examiner is unsure whether or not the Applicant has proper support for the limitations added to the claims. Thus, given the objection to the

drawings above, this objection to the claims will be obviated by submitting clearer versions of the Figures to prove that these Figures show what is asserted by the Applicant.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1, 4, 7, 8, 10 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thrower (US 4,857,914) in view of Sasaki (JP 2002-358153 A).

***Regarding claim 1,*** Thrower discloses an information input apparatus whose key arrangement is variable (Figure 1), comprising:

a key display section for displaying elements of a key image of a matrix shape (Figure 1, 3);

a key input section for receiving information of a corresponding key at a predetermined location of the key image displayed on the key display section (Figure 1, 1); and

an input controller (Figure 1, elements 5-11.) for generating an image of predetermined key arrangement selected among a plurality of key images in which numeric keys are shift-arranged so that there is no crossing in an neighboring numeral traffic line (Figures 2a-2d and column 3, lines 1-8), providing the generated image to the key display section (Figures 2a-2d and column 2, line 63 to column 3, line 19.), and converting the information inputted through the key input section into an actual key value based on the predetermined key arrangement (Column 3, lines 9-28).

Thrower fails to explicitly teach of at least one of the key images having numeric keys 1 and 2 and a non-numeric key all positioned at the top of the key image.

Sasaki discloses an information input apparatus wherein a key image is provided having numeric keys 1 and 2 and a non-numeric key all positioned at the top of the key image (Drawing 3).

Therefore, since Thrower and Sasaki each disclose of variable key arrangements, it would have been obvious to "one of ordinary skill" in the art at the time

the invention was made to substitute one method of arranging with the other in order to achieve the predictable result of providing variable key arrangements.

***Regarding claim 4,*** Thrower and Sasaki disclose the information input apparatus as claimed in claim 1.

Thrower also discloses wherein the input controller further comprises a user input section, and displays the key image of the predetermined arrangement type on the key display section based on the signal inputted through the user input section (Figure 1 and column 3, lines 9-28 [interface 5] where coder 7 converts output from counter 6 [A] to display a new pattern through driver 8.).

***Regarding claim 7,*** Thrower and Sasaki disclose the information input apparatus as claimed in claim 1.

Thrower also discloses wherein the key arrangement includes non-numeric keys that are shift-arranged along with the numeric keys (Figures 2a-2d).

***Regarding claim 8,*** Thrower and Sasaki disclose the information input apparatus as claimed in claim 1.

Thrower also discloses wherein the key arrangement comprises a plurality of non-numeric keys having one side fixed to a predetermined location and the other randomly arranged (Column 3, lines 43-48 and Figures 2a-2d show that the keys have

one side fixed to a column location and the other side randomly arranged to a row position.).

***Regarding claim 10,*** Thrower and Sasaki disclose the information input apparatus as claimed in claim 1.

Sasaki also discloses wherein a key arrangement comprises numeric keys and non-numeric keys, the numeric keys experience a square rotary shift in the clockwise or counterclockwise direction, and the starting point of the numeric keys is arbitrarily selected (Drawings 4a and 4b).

***Regarding claim 13,*** this claim is rejected under the same rationale as claim 1.

***Regarding claim 14,*** Thrower and Sasaki disclose the method as claimed in claim 13.

Thrower also discloses the method further comprising the step of selecting an image of other key arrangement if the user chooses to change the key arrangement (Column 3, lines 1-28, where the key arrangement is changed when a user chooses/presses a key, thus the arrangement is changed when a user chooses to change the arrangement.).

***Regarding claim 15,*** Thrower and Sasaki disclose the method as claimed in claim 13.

Thrower also discloses the method further comprising the step of selecting an image of other key arrangement every key input of a predetermined number of times (Column 3, lines 1-28).

8. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thrower (US 4,857,914) in view of Sasaki (JP 2002-358153 A) and further in view of Kitajima et al. (JP 2001-228970 A).

***Regarding claim 2***, Thrower and Sasaki disclose the information input apparatus as claimed in claim 1.

Thrower and Sasaki fail to explicitly teach the information input apparatus further comprising an ambient light shielding filter attached to the front of the key display section.

Kitajima et al. disclose an information input apparatus comprising an ambient light shielding filter attached to the front of a key display section (Drawings 2 and 3 and paragraphs [0027]-[0033].).

Therefore, it would have been obvious to "one of ordinary skill" in the art at time the invention was made to use the ambient light shielding filter taught by Kitajima et al. on the front of the key display section taught by the combination of Thrower and Sasaki in order to regulate the viewing of the keyboard panel (See paragraph [0045] of Kitajima et al.).

***Regarding claim 3***, Thrower, Sasaki and Kitajima et al. disclose the information input apparatus as claimed in claim 2.

Kitajima et al. also disclose wherein the ambient light shielding filter is an orthogonal two-fold shielding filter (Drawings 2 and 3 and paragraphs [0027]-[0033].).

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thrower (US 4,857,914) in view of Sasaki (JP 2002-358153 A) and further in view of Okada (JP 2002-032176 A).

***Regarding claim 5***, Thrower and Sasaki disclose the information input apparatus as claimed in claim 1.

Thrower and Sasaki fail to teach wherein the matrix elements are shifted in a direction moving from a left upper portion of the keypad to a right lower portion of the keypad.

Okada discloses of an information input apparatus wherein matrix elements are shifted in a direction moving from a left upper portion of the keypad to a right lower portion of the keypad (Drawings 1 and 2, where drawing 2 shows the different arrangements, where (1) show the numbers "1" and "2" to be in the left upper portion, where the number are shifted and by (5) the numbers "1" and "2" are in the right lower portion of the keypad.).

Therefore, since the combination of Thrower and Sasaki, and Okada each disclose of shifting the matrix elements on a keypad, it would have been obvious to "one

of ordinary skill" in the art at the time the invention was made to substitute one method of arranging with the other in order to achieve the predictable result of shifting the matrix elements on a keypad.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thrower (US 4,857,914) in view of Sasaki (JP 2002-358153 A) and further in view of McIntyre et al. (US 6,549,194).

***Regarding claim 6,*** Thrower and Sasaki disclose the information input apparatus as claimed in claim 1.

Thrower and Sasaki fail to teach wherein the key arrangement includes non-numeric keys whose location is all fixed.

McIntyre et al. disclose of an information input apparatus with a variable key arrangement, wherein the key arrangement includes non-numeric keys whose location is all fixed (Figures 3a-3c).

Therefore, since the combination of Thrower and Sasaki, and McIntyre et al. each disclose of variable key arrangements, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to substitute one method of arranging with the other in order to achieve the predictable result of providing variable key arrangements.

11. Claims 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thrower (US 4,857,914) in view of Sasaki (JP 2002-358153 A) and further in view of Maddalozzo, Jr. et al. (US 6,434,702).

***Regarding claim 9,*** Thrower and Sasaki disclose the information input apparatus as claimed in claim 1.

Thrower and Sasaki fail to teach wherein the key arrangement comprises non-numeric keys all of which are randomly arranged.

Maddalozzo, Jr. et al. disclose of an information input apparatus wherein a key arrangement comprises non-numeric keys all of which are randomly arranged (Figures 1 and 2).

Therefore, since the combination of Thrower and Sasaki, and Maddalozzo, Jr. et al. each disclose of variable key arrangements, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to substitute one method of arranging with the other in order to achieve the predictable result of providing variable key arrangements.

***Regarding claim 12,*** Thrower and Sasaki disclose the information input apparatus as claimed in claim 1.

Thrower and Sasaki fail to teach wherein multiple character keys are allocated to the numeric keys.

Maddalozzo, Jr. et al. disclose of an information input apparatus wherein multiple character keys are allocated to the numeric keys (Figure 2).

Therefore, since the combination of Thrower and Sasaki, and Maddalozzo, Jr. et al. each disclose of variable key arrangements, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to substitute one method of arranging with the other in order to achieve the predictable result of providing variable key arrangements.

12. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thrower (US 4,857,914) in view of Sasaki (JP 2002-358153 A) and further in view of Habu (US 6,925,169).

***Regarding claim 11,*** Thrower and Sasaki disclose the information input apparatus as claimed in claim 10.

Thrower and Sasaki fail to explicitly teach wherein the non-numeric keys are fixed at the center.

Habu discloses an information input apparatus wherein non-numeric keys are fixed at the center (Figures 1 and 2).

Therefore, since the combination of Thrower and Sasaki, and Habu each disclose of key arrangements, it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to substitute one arrangement with the other in order to achieve the predictable result of providing key arrangements.

***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN G. SHERMAN whose telephone number is (571)272-2941. The examiner can normally be reached on M-F, 7:30 a.m. - 4:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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